

# **Local Employment and Income from Outdoor Recreation at Selected Bureau of Land Management Sites**

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## Executive Summary

The purpose of this report is to document the economic impacts of expenditures by visitors to three representative Bureau of Land Management sites: Goldbelt in Colorado and Yaquina Head and Steens Mountain, both in Oregon. This study employed the results of the 1992 CUSTOMER survey at these three sites to estimate expenditures, and visitation estimates were obtained from the local BLM managers for FY 1995. Economic impacts were estimated within the IMPLAN regional input-output modeling system.

The study estimated economic impacts under four different sets of assumptions: (a) two different geographical ranges, and (b) total and growth only effects in the impact area. For each area, using the most conservative assumptions, the summary results follow.

1. Steens Mountain. This area in eastern Oregon is remote from any population centers and consequentially has relatively low visitation and economic impacts. In 1995, it received 46,945 visitors of whom approximately 15,200 were from outside the local impact area and used the Steens Mountain area as their primary destination.

**Recreation visitation at the Steens Mountain Area resulted in over \$1.5 million in economic growth.**

The 1992 CUSTOMER survey indicated that the average person spent \$74.83 during their visit so total expenditures were approximately \$1,137,640. Within the input-output model, these expenditure impacts yielded \$829,600 (in 1995 dollars) in increased final demand in the impact region

after accounting for purchased items that have to be imported. This increased final demand led to a \$1,504,500 total economic impact, an \$858,600 total income impact and 41 jobs. The multiplier for total economic output associated with visitor spending is calculated by dividing the total impact by the direct impact, for a 1.81 multiplier.

2. Yaquina Head. This area is along the central Oregon coast, within easy reach of major population centers, and it received the most visitors of the three areas studied. In 1995, it received 519,000 visitors of whom 208,702 were primary destination users originating from outside the local impact area. The average person spent \$100.21 so that total expenditures were approximately \$20,914,000. These expenditure impacts yielded \$14,440,900 in increased final demand in the impact region after accounting for the leakage that resulted from imported items. This increased final demand led to a \$37,229,000 total economic impact, a \$22,178,000 total income impact and 831 jobs. The multiplier for total economic output associated with visitor spending was found to be 2.58.

**Almost \$21 million was spent locally by visitors to Yaquina Head area.**

3. Goldbelt. This area is in central Colorado and is in the vicinity of several large resorts and other attractions. It received 702,350 visitors in 1995, of whom 139,090 were primary destination users from outside the local impact area. The average person spent \$104.30 so that total

**Spending by Goldbelt visitors supported 378 jobs in the local area.**

expenditures were approximately \$14,507,000. These expenditures yielded \$9,599,100 in increased final demand in the impact region after accounting for purchased items that have to be imported. This increased final demand lead to a \$18,489,700 total economic impact, a \$10,795,000 total income impact and 378 jobs. The multiplier for total economic output associated with visitor spending is 1.93.

## Introduction

Studies show that 94.5 percent of people in the United States participate in some form of outdoor recreation. These studies also indicate that demand for outdoor recreational opportunities in the United States is expected to increase into the foreseeable future (Cordell et al., 1990). Federal land and water resources are a major source of outdoor recreational opportunities throughout the nation. Benefits of providing these opportunities include the enjoyment gained by recreational visitors themselves through participation in outdoor recreation, and the positive economic effects on local and market area economies of recreation visitor expenditures.

In this report, the economic effects on local and market area economies of expenditures by recreational visitors to three representative U.S. Department of the Interior, Bureau of Land Management (BLM) sites are reported and discussed. The three representative sites examined include Goldbelt in Colorado and Yaquina Head and Steens Mountain, both in Oregon. Two types of economic effects were estimated, economic growth effects and economic interdependence effects. These concepts are defined briefly in the following section.

## The Meaning of Economic Growth and Interdependence Effects

### Economic Growth Effects

In economics, the term *economic growth* refers generally to an increase in the overall “size” of an economy. This increase in size can be measured by a number of economic indicators including total output, total number of jobs, and total employee income. Economic growth is often likened to “increasing the size of the economic pie.” This “economic pie” is divided up or distributed to various individuals and groups.

How does economic growth occur in a local or market area economy? The technical answer to this question is found in export base theory. Export base theory states that a local or market area economy grows by exporting goods or services outside of the economy so that “new dollars” can be brought into the local or market area economy. These “new dollars” are the source of economic growth measured in terms of increased output, jobs, and income. It is difficult for true economic growth to occur without the influx of “new dollars” because in the absence of such an influx, residents of the local or market area economy are simply transferring dollars and income between themselves. This transfer of dollars does not generally affect the size of the “economic pie,” rather the pie just keeps getting “cut up” and distributed in different ways.

How can outdoor recreation contribute to economic growth in a local or market area economy? Consider, for example, a BLM site such as Steens Mountain in Oregon. Visitors who live outside of the local economy surrounding Steens Mountain come to the site to engage in outdoor recreation.

While visiting the site and traveling within the local area, these visitors spend money on food, lodging, gasoline, and general supplies. The money spent on these items represents an influx of “new dollars” which, in turn, support economic growth.

In sum, when nonresidents of a local or market area economy spend money in the local or market area economy as part of a regional trip, the effects on the economy are similar to exports from a basic industry. Exports from a basic industry such as a manufacturing firm fuel economic growth in a local or market area economy by bringing in “new dollars.” In the case of recreation and tourism, the local or market area economy can be thought of as “exporting” recreational services to nonresidents. The recreation and tourism industry therefore can function as a basic industry or an industry which contributes to economic growth (Bergstrom et al., 1990; Cordell et al, 1992; English and Bergstrom, 1994).

### Economic Interdependence

As every businessperson knows, firms and businesses in a local or market area economy are interdependent. Firms A, B, and C, for



**Figure 2.** Gasoline sales to nonresidents produce “new dollars” locally.

example, may all be located in the same community. Firm A may depend on Firm B for supplies needed to operate while Firm C depends on both Firm A and B for needed supplies. Firm C, in turn, may sell its product to both nonresidents and residents of the local economy. Sales by Firm C to nonresidents represent an influx of “new dollars” into the local economy. Sales by Firm C to residents represent dollars “changing hands” within the local economy. Both types of sales (resident and nonresident) contribute to Firm C’s total cash flow and also cash flows to Firms A and B because of economic linkages or economic interdependence between Firms A, B, and C.

Why is economic interdependence important to consider when assessing the economic significance of recreational expenditures on a local or market area economy? Consider again the example of recreational expenditures by visitors to a BLM site such as Steens Mountain. Many recreational visitors to Steens Mountain live in the local area surrounding the site. Thus, expenditures by these visitors do not represent an influx of “new dollars” into the local economy. However, these expenditures along with expenditures by nonresidents of the local economy contribute to total cash flows of local firms and businesses.

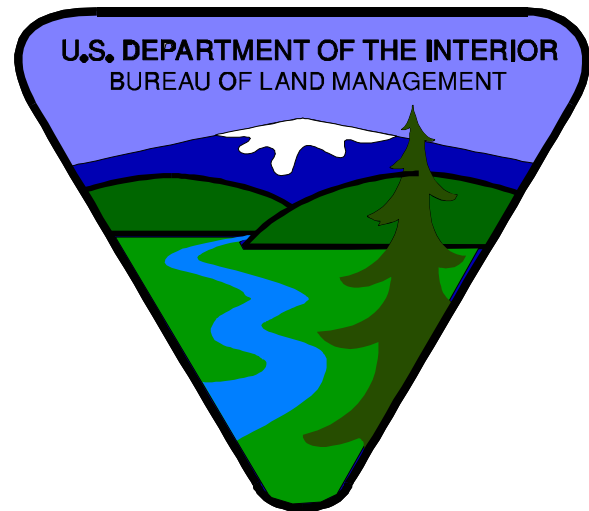
Suppose that for some reason Steens Mountain became unavailable for outdoor recreation. The ensuing reduction in recreational expenditures by Steens Mountain visitors would cause a short-term “shock” to the local economy. The long-term effects on the local economy would depend upon how both residents and nonresidents of the local economy reallocate their recreational expenditures. If residents and nonresidents reallocate expenditures

which they would have made in the local economy on a recreational trip to Steens Mountain to other firms and businesses located in the local economy, then the local economy may or may not suffer a net loss in long-run economic activity (as measured, for example, by total jobs and income). However, if residents and nonresidents reallocate expenditures which they would have made in the local economy on a recreational trip to Steens Mountain to firms and businesses located outside of the local economy, then the local economy would suffer a net loss in economic activity in the long-run. That is, the size of the “economic pie” would shrink (assuming all else is held constant).

In sum, economic interdependence analysis provides an indication of how dependent the health of a local or market area economy is on recreational expenditures. The greater this dependence, the more vulnerable a local or market area economy is to “shocks” caused by changes in recreational trips and expenditures. Net changes in economic activity resulting from these “shocks” in the long-run depend upon how residents and nonresidents of a local or market area economy reallocate recreational expenditures within and outside of the local or market area economy (Cordell et al., 1992).

### **Economic Impact Analysis and Results**

In this study, the economic significance of recreational expenditures on local and market area economies surrounding three representative BLM sites was assessed in terms of both economic growth and interdependence. The representative BLM sites were selected by the research team in cooperation with BLM personnel. Estimation of economic growth and economic interdependence effects involved



**Figure 3.** The Bureau of Land Management provides vast recreational opportunities in the West.

the following major steps: (1) estimation of total recreational visits at each site; (2) estimation of expenditures per recreation visit; (3) specification of local and market area economies surrounding each site; (4) estimation of total recreation trip expenditures in the local and market area economies by residents and nonresidents; (5) estimation of economic effects on local and market area economies resulting from nonresident expenditures (economic growth effects) and from the combination of nonresident and resident expenditures (economic interdependence effects).

The managers at the three BLM recreation sites supplied their best estimates of visitations in FY 1995. Goldbelt reported 702,350 visitors, Yaquina Head 519,000, and Steens Mountain 46,945 visitors. Expenditures per recreational visit were estimated from expenditure survey data collected from visitors at each site. These surveys were conducted as part of the

nationwide, multi agency CUSTOMER<sup>4</sup> survey effort designed to collect comprehensive and up-to-date data on recreational uses of public land and water resources. Detailed descriptions of how the surveys were conducted and of the character of each site are provided in separately developed reports (ORWAG, 1991-95).

Local and market area economies surrounding each BLM site were specified by the research team in cooperation with BLM personnel. The local economy was specified as the county in which the recreational site is located, and counties adjacent to that central county that are within workers' commuting range. The market area economy was specified as those counties surrounding each site which fall within a 150-mile radius of each site. As such, this definition includes the impacts from recreation-related businesses (and their own commuting ranges) that are not in the site's vicinity. This is an important consideration in western states because of settlement patterns. The result of these different assumptions is that impact estimates from the local economy will be smaller than those from the market area, but the market area is based upon more realistic assumptions. The local and market area economies specified for each site are shown in the maps in figures A.1-A.3 in Appendix A.

Prior recreational studies have been routinely criticized because they include trip expenditures from all visitors at a site, even if a proportion of visitors were at the site because it was a side trip on their way to some other primary destination (Chappelle,

1985). For these visitors, it can be argued that if the BLM site had not existed, they would have visited the area anyway and thus their expenditures should be ignored since they cannot be attributed to the BLM site. In order to avoid this criticism and produce conservative impact estimates, the research team decided to remove these expenditures by non-primary visitors from the analysis. This was achieved by using the CUSTOMER data base to generate the proportion of visitors who reported that the BLM site was their primary destination, and applying this proportion to the BLM visitation estimates to yield an estimate of primary destination visitation.

The proportion of total visits to each site by residents and nonresidents of the local and market area economies surrounding each site were also estimated by BLM personnel. At Goldbelt, 31.7 percent of visitors were residents of the local economy and 48.9 percent were residents of the market area economy. Figures for the other areas were: Yaquina Head: 5.5 percent (local) and 24.4 percent (market area) and Steens Mountain, 4.1 percent (local) and 86.2 percent (market area).

Table 1 lists the relevant results from the 1992 CUSTOMER survey that were used in this study. For example, for the Steens Mountain area, the average visitor who originated from outside the local impact area spent \$74.83 per trip. The average visitor for the market area growth model spent more, \$92.58, because they traveled a greater distance and were more likely to stay overnight in the vicinity. The number of questionnaire responses on which the expenditure estimates are based is also reported, and all monetary figures are in 1992 dollars.

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<sup>4</sup>CUSTOMER stands for Customer Use and Survey Techniques for Operation, Marketing, Evaluation and Research.



Table 1. Average expenditures per person by BLM site in local and market areas, 1992 dollars.

Site		Growth Model		Interdependence	
		Local <sup>1</sup> Economy	Market area <sup>2</sup> Economy	Local Economy	Market area Economy
Steens Mountain	Expenditures <sup>3</sup> Per Person	\$74.83	\$92.58	\$75.48	\$91.78
	Sample Size <sup>4</sup>	76	58	77	77
Yaquina Head	Expenditures Per Person	\$100.21	\$149.67	\$83.20	\$98.41
	Sample Size	66	34	94	94
Goldbelt	Expenditures Per Person	\$104.30	\$118.77	\$104.64	\$108.71
	Sample Size	47	37	49	49

1. The local economy is defined as the county where the recreation site is located, and counties that are within commuting range.

2. The market area economy is defined as all counties with at least 40 percent of their area within a 150-mile radius of the recreation site.

3. Expenditures are on a per person, per trip basis.

4. Number of valid questionnaires from each site, after deleting residents from both growth models, and those who did not state that this site was their primary destination.

of the three sites, it indicates the average Table 2 also presents results from CUSTOMER, but in greater detail. For each of the three sites, it indicates the average reported expenditures among five major expense categories. The food and beverage, transportation and lodging categories are self-explanatory. The activity category includes expenses on tourist attractions, museums, tour guides, etc. Again, all monetary figures are in 1992 dollars.

The number of total visits by nonresidents was multiplied by mean expenditures per visit for nonresidents to estimate total recreational expenditures by nonresidents in the local and market area economies surrounding each site. This estimate of total expenditures by nonresidents was used to estimate *economic growth* effects. The



Figure 4. Hikers in the desert.



Table 2. Average Expenditures<sup>1</sup> for five major categories of goods and services at three BLM sites, 1992 dollars.

Site		Growth Model		Interdependence	
		Local <sup>2</sup> Economy	Market area <sup>3</sup> Economy	Local Economy	Market area Economy
Steens Mountain	Food & Beverage	\$49.98	\$64.29	\$50.48	\$58.38
	Transportation	\$11.01	\$12.33	\$11.08	\$16.99
	Lodging	\$10.90	\$12.85	\$10.78	\$11.32
	Activities	\$0.67	\$0.64	\$0.89	\$1.04
	Miscellaneous	\$2.26	\$2.44	\$2.24	\$4.04
Yaquina Head	Food & Beverage	\$42.58	\$63.36	\$34.04	\$37.60
	Transportation	\$15.99	\$29.45	\$12.54	\$16.62
	Lodging	\$28.63	\$43.77	\$26.25	\$32.02
	Activities	\$1.17	\$0.79	\$1.04	\$1.29
	Miscellaneous	\$11.63	\$12.28	\$9.30	\$10.85
Goldbelt	Food & Beverage	\$30.52	\$30.13	\$30.01	\$31.79
	Transportation	\$17.27	\$20.91	\$17.22	\$18.99
	Lodging	\$28.55	\$34.19	\$29.76	\$29.77
	Activities	\$7.44	\$8.71	\$7.31	\$7.51
	Miscellaneous	\$20.51	\$24.82	\$20.33	\$20.64

1. Expenditures are on a per person, per trip basis.

2. The local economy is defined as the county where the recreation site is located, and counties that are within commuting range.

3. The market area economy is defined as all counties with at least 40 percent of their area within a 150-mile radius of the recreation site.

combined number of visits by residents and nonresidents was multiplied by mean expenditures per visit to yield an estimate of total recreational expenditures in the local and market area economies surrounding each site. This estimate of total expenditures was used to estimate *economic interdependence* effects. Thus, for each of three BLM areas, four separate economic impact scenarios were estimated.

These economic impact models were estimated using IMPLAN. IMPLAN is an input-output modeling system developed by the U.S. Forest Service. The general methodology for combining estimates of total recreational expenditures with the IMPLAN modeling system to estimate economic growth and interdependence effects is discussed in a number of publications (Alward and Lofting, 1985;

Bergstrom et al., 1990; Chappelle, 1985; Cordell et al, 1992; English and Bergstrom, 1994; Propst et al., 1985). More detailed descriptions of the application of this methodology to the current study are provided in a supplementary technical paper by the authors of this report (Kriesel et al., 1996) and other earlier reports published as part of the CUSTOMER survey reporting process (ORWAG, 1991-94).

Economic growth and interdependence effects of recreational spending for the three representative BLM sites are reported in terms of total output, total employment, and total income. Total output refers to the monetary value of all goods and services produced in a local economy. Total employment refers to all full-time, part-time,

year-round, and seasonal jobs in a local or market area economy. Total income is the sum of employee compensation (wages and salaries paid to employees of industries in an economy) and property income. Property income is defined as profits, rents, and royalties paid to owners of property and firms which produce goods and services in an economy (Palmer and Siverts, 1985).

Expenditure estimates from the 1992 CUSTOMER survey were used within IMPLAN's 1992 base year data. To make the resulting impact estimates more up-to-date, the Bureau of Labor Statistics's price indices were applied to the impact estimates from each IMPLAN sector. As a result, all monetary impact estimates are reported in 1995 dollars.

Table 3: Total growth impacts from spending by nonlocal visitors at three BLM sites, 1995 dollars.

Site	Economic Growth Impacts					
	Total Output		Total Employment		Total Income	
	Local <sup>1</sup> Economy	Market area <sup>2</sup> Economy	Local Economy	Market area Economy	Local Economy	Market area Economy
Steens Mountain	\$1,504,400	\$349,400	41	7	\$858,600	\$194,000
Yaquina Head	\$37,299,000	\$13,505,900	830	272	\$22,178,000	\$7,665,100
Goldbelt	\$18,489,700	\$33,216,800	378	605	\$18,489,700	\$18,680,000

1. The local economy is defined as the county where the recreation site is located, and counties that are within commuting range.

2. The market area economy is defined as all counties with at least 40 percent of their area within a 150-mile radius of the recreation site.

## Economic Growth Effects

Economic growth effects of recreational spending for each site are summarized in Table 3. As expected, the Steens Mountain area has the smallest economic impact because its visitation is very low, undoubtedly due to the remoteness of this area. Furthermore, the makeup of both the local and market area economies is quite “sparse,” meaning that they have little variety in the types of businesses that supply inputs



**Figure 5.** Yaquina Head on the coast of Oregon.

to the recreation industry. When more inputs have to be imported into the region, visitors’ expenditures are in effect “leaked” out, and this leakage directly reduces the impacts of visitors’ spending. The Yaquina Head area has the largest impacts because it is within driving range of Eugene and Corvallis, and their economies are diverse.

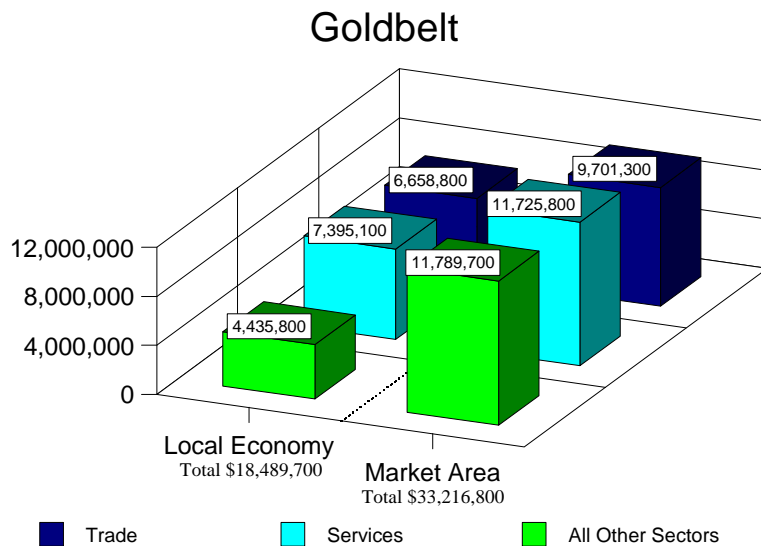
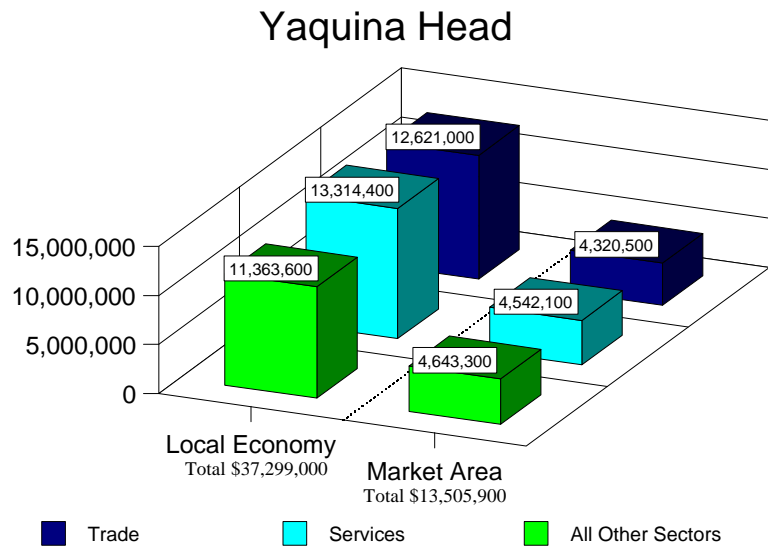
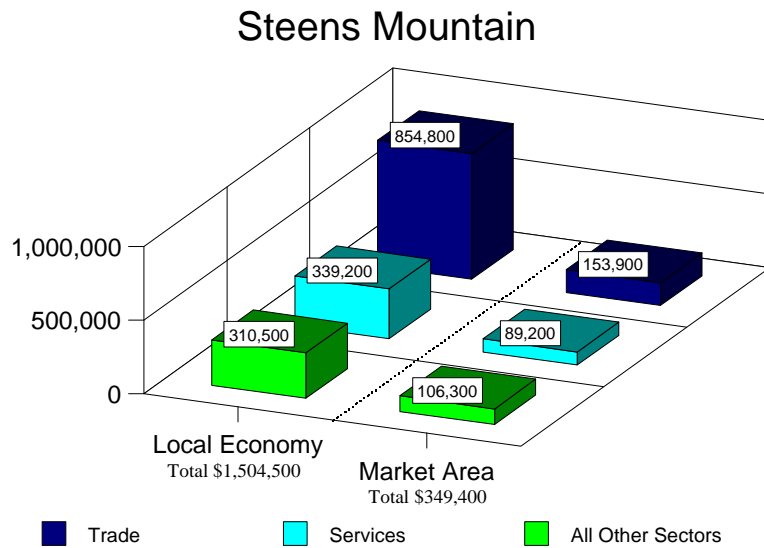
Economic growth effects of recreational spending on different major business sectors

in the local and market area economies surrounding each site are shown in figure 5. Figure 5 indicates that the business sectors most heavily affected by recreational expenditures in both local and market area economies surrounding each site include retail trade (first) and services (second). Other sectors affected, but generally to a much smaller extent, included agriculture, forestry, fisheries, mining, construction, manufacturing, transportation, and government. Detailed breakdowns of economic growth effects on each of these major business sectors are provided in Table B.1-B.3 in Appendix B.

## Economic Interdependence Effects

Economic interdependence effects of recreational expenditures for each site are summarized in table 4. As compared to economic growth effects (table 3), economic interdependence effects are larger because these effects account for expenditures by both residents and nonresidents. The results in table 4 indicate that Steens Mountain has the smallest economic impacts and Yaquina Head has the largest, and that the impacts from the Goldbelt area are between these two.

Economic interdependence effects of recreational spending on different major business sectors in the local and market area economies surrounding each site are shown in figure 6. The distribution of economic interdependence effects across different business sectors follows the same general pattern observed for economic growth effects. Retail trade is the most heavily affected sector, followed by services. Relatively small interdependence effects are observed for agriculture, forestry, fisheries, mining, construction, manufacturing, transportation, communication, utilities, and



**Figure 5.** Growth impacts on total business output from recreational expenditures, by major business sectors, 1995 dollars.

Table 4: Total interdependence impacts from combined spending by resident and nonresident visitors to three BLM sites, 1995 dollars.

Site	Interdependence Impacts					
	Total Output		Total Employment		Total Income	
	Local <sup>1</sup> Economy	Market area <sup>2</sup> Economy	Local Economy	Market area Economy	Local Economy	Market area Economy
Steens Mountain	\$1,548,900	\$2,755,900	42	58	\$884,300	\$ 1,538,700
Yaquina Head	\$37,678,900	\$50,453,000	839	1,019	\$22,527,000	\$28,905,000
Goldbelt	\$25,138,300	\$37,829,300	513	695	\$14,696,000	\$21,160,000

1. The local economy is defined as the county where the recreation site is located, and counties that are within commuting range.

2. The market area economy is defined as all counties with at least 40 percent of their area within a 150-mile radius of the recreation site.

government. Detailed breakdowns of the interdependence effects of recreational expenditures on different business sectors are shown in Table B.4-B.6 in Appendix B.

### Economic Multipliers

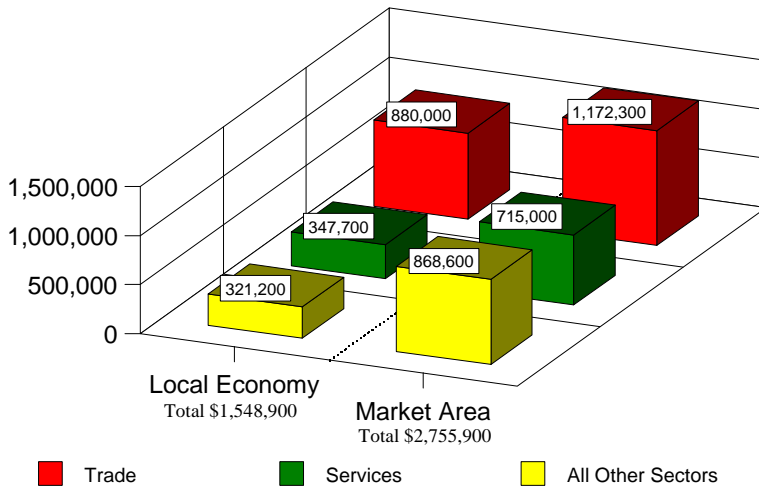
Table 5 presents the economic multipliers associated with visitors' expenditures at the three BLM sites. Each of the two growth models and each of the two interdependence models have their own set of three multipliers for total output, income, and employment. Total output refers to the

monetary value of all goods and services produced in a local economy. Total income is the sum of employee compensation (wages and salaries paid to employees of industries in an economy) and property income.

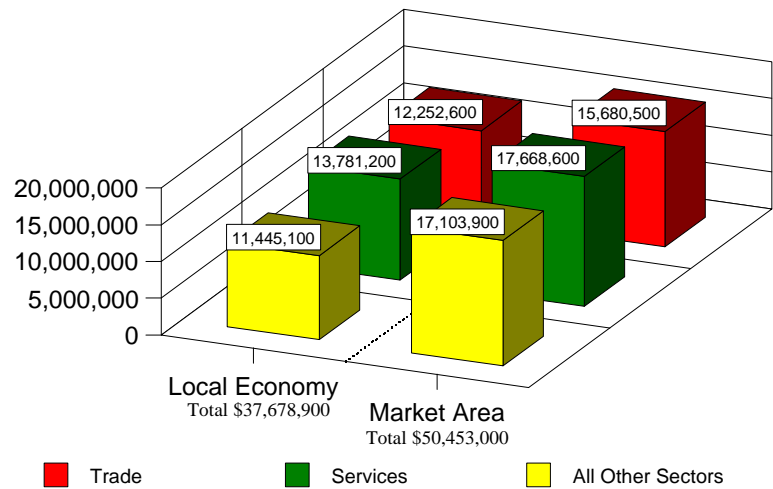
Property income is defined as profits, rents, and royalties paid to owners of property and firms that produce goods and services in an economy. Total employment refers to all full-time, part-time, year-round, and seasonal jobs in a local or market area economy.

As an example of how these multipliers are calculated, consider the local growth impact

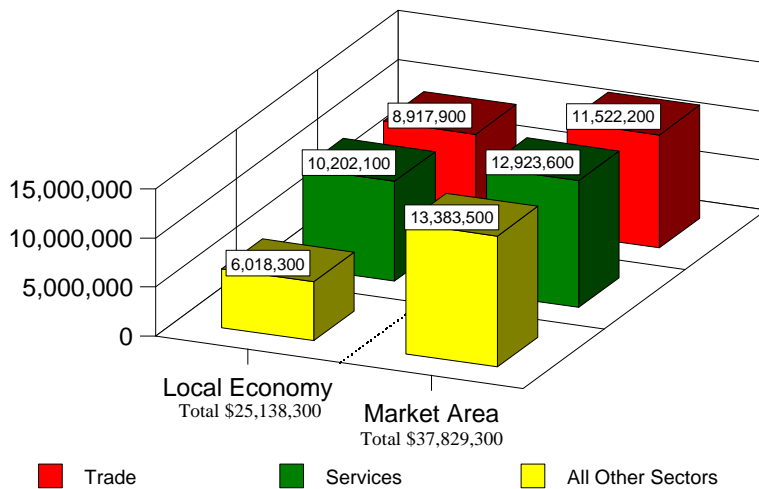
## Steens Mountain



## Yaquina Head



## Goldbelt



**Figure 6.** Economic interdependence impacts on total output from recreational expenditures, by major business sectors, 1995 dollars.



Table 5. Economic Impact Multipliers for Visitor Expenditures, three BLM sites.

Site	Type of Multiplier	Growth Impacts		Interdependence Impacts	
		Local <sup>1</sup> Economy	Market area <sup>2</sup> Economy	Local Economy	Market area Economy
Steens Mountain	Total Output	1.813	2.565	1.812	2.598
	Income	1.788	2.522	1.786	2.532
	Employment	1.415	1.756	1.416	1.819
Yaquina Head	Total Output	2.583	2.825	2.574	2.812
	Income	2.391	2.634	2.369	2.593
	Employment	1.841	2.022	1.839	2.022
Goldbelt	Total Output	1.926	2.318	1.923	2.342
	Income	1.893	2.266	1.888	2.299
	Employment	1.545	1.874	1.546	1.868

1. The local economy is defined as the county where the recreation site is located, and counties that are within commuting range.

2. The market area economy is defined as all counties with at least 40 percent of their area within a 150-mile radius of the recreation site.

model for Goldbelt. Expenditure impacts yielded an increase of \$9,599,100 in final demand in the impact region after accounting for purchased items that have to be imported. This increased final demand led to a \$18,489,700 total economic impact, as shown in Table 3. The multiplier for total

economic output associated with visitor spending is calculated by dividing the total impact by the direct impact, for a 1.93 multiplier. This multiplier means that each dollar of output directly generated by visitor spending will result in \$1.93 total economic output. The same process is used to calculate impacts for the other models and economic indicators, and similar interpretations also apply to them.

## Conclusions

There are significant local and market area economic impacts from visitors at the three Bureau of Land Management sites reviewed in this report: Goldbelt in Colorado and Yaquina Head and Steens Mountain in Oregon.



Figure 7. Goldbelt in Colorado.

Steens Mountain had the smallest impacts because it is remote from any major population centers and consequentially has very low visitation and economic impacts. In 1995, this area received 46,945 visitors of whom 45,924 were from outside the local market area and visited this site because it was their primary destination. The average person spent between \$51.13 and \$56.51 during a trip to this area. These expenditures yielded \$829,600 (conservative estimate) in increased final demand in the impact region after accounting for purchased items that had to be imported. This increased final demand led to a total output impact of \$1,504,000, a total income impact of \$858,600 and added 41 jobs. The multiplier for total economic output associated with visitor spending is calculated by dividing the total impact by the direct impact. For Steens Mountain the multiplier was 2.16.

Yaquina Head is within easy reach of major population centers and receives the greatest visitation of the three BLM areas studied. In 1995, Yaquina Head received 519,000 visitors, of whom 208,702 were primary users from outside the market area. The average person spent about \$100 so that total expenditures were approximately \$20,914,000. These expenditure impacts yielded \$14,440,900 in increased final demand in the impact region after accounting for the leakage that results from imported items. This increased final demand led to a total output impact of \$37,299,000, a total income impact of \$22,178,000 and added 831 jobs. The multiplier for total economic output associated with visitor spending was found to be 2.58.

Goldbelt, Colorado received 702,350 visitors in 1995, of whom 139,090 were from outside the local market area and visited this site because it was their primary destination.

The average person spent about \$104 so that total expenditures were approximately \$14,507,000. These expenditures yielded \$9,599,100 in increased final demand in the impact region after accounting for purchased items that have to be imported. This increased final demand led to a total economic impact of \$18,489,700, a total income impact of \$10,795,000 and 378 additional jobs. The multiplier for total economic output associated with visitor spending is 1.92.

These economic impacts indicate that the recreation services provided at these sites are a vital component of the economies in the host regions. Without these services there would be a marked decrease in the attractiveness of the regions to tourists, recreationists and other visitors. Furthermore, as shown by the economic interdependence models, spending by local residents add a significant economic boost. This is because they may have traveled outside the region if local recreation opportunities were absent.

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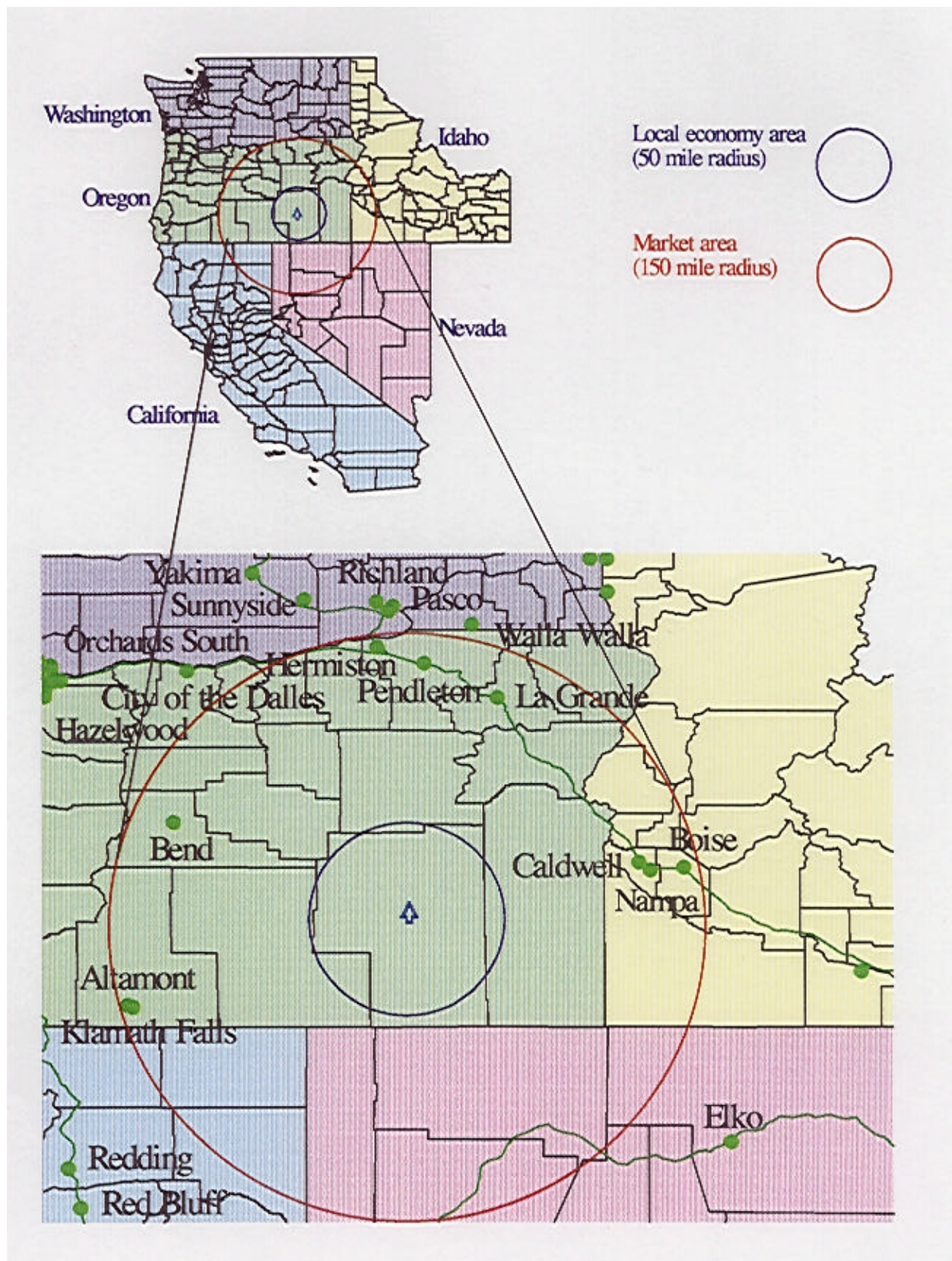
# Appendix A

## Maps showing the Economic Impact Areas



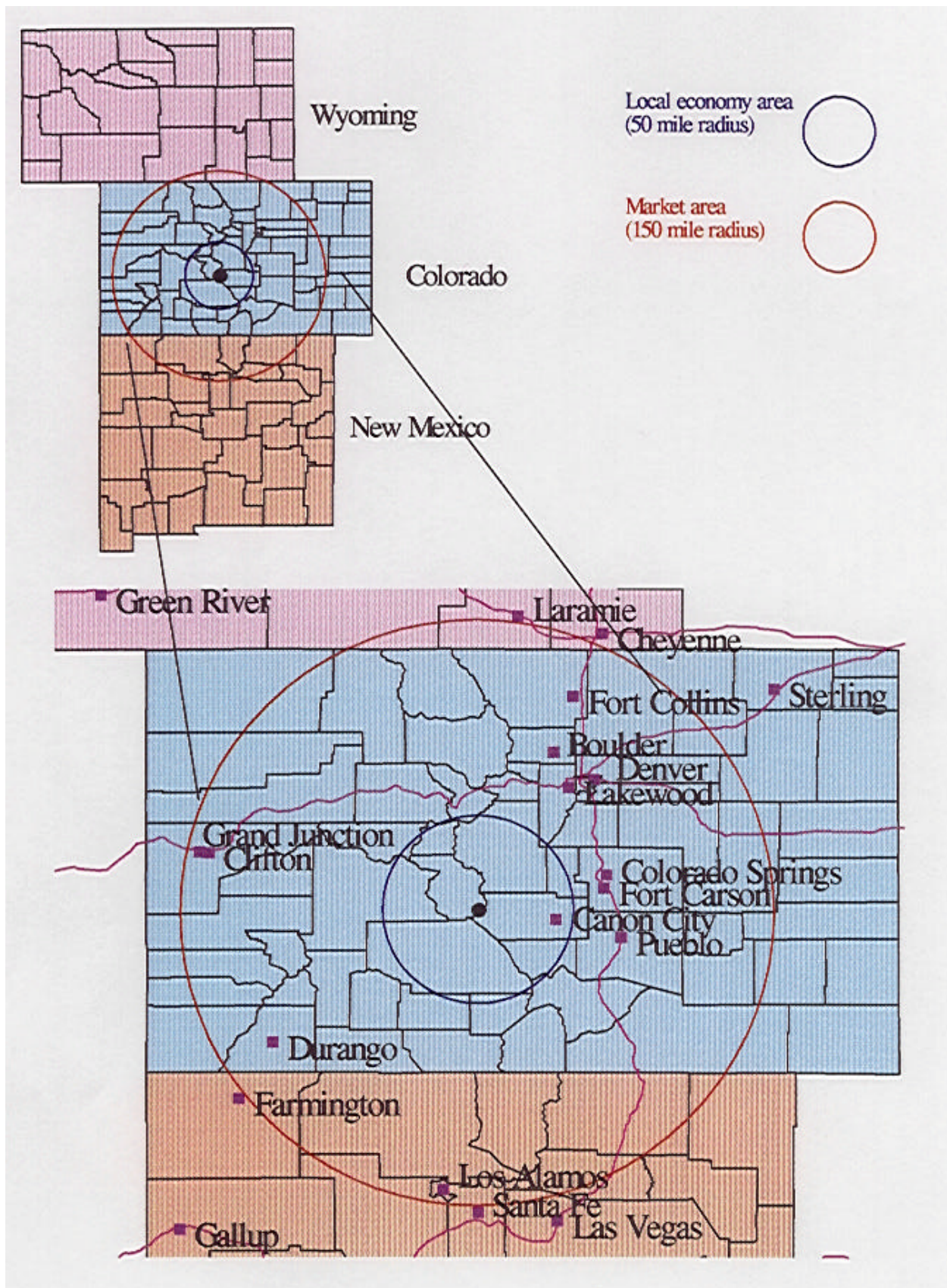


**Figure A.1.** Local economy area and market area for Steens Mountain, Oregon.



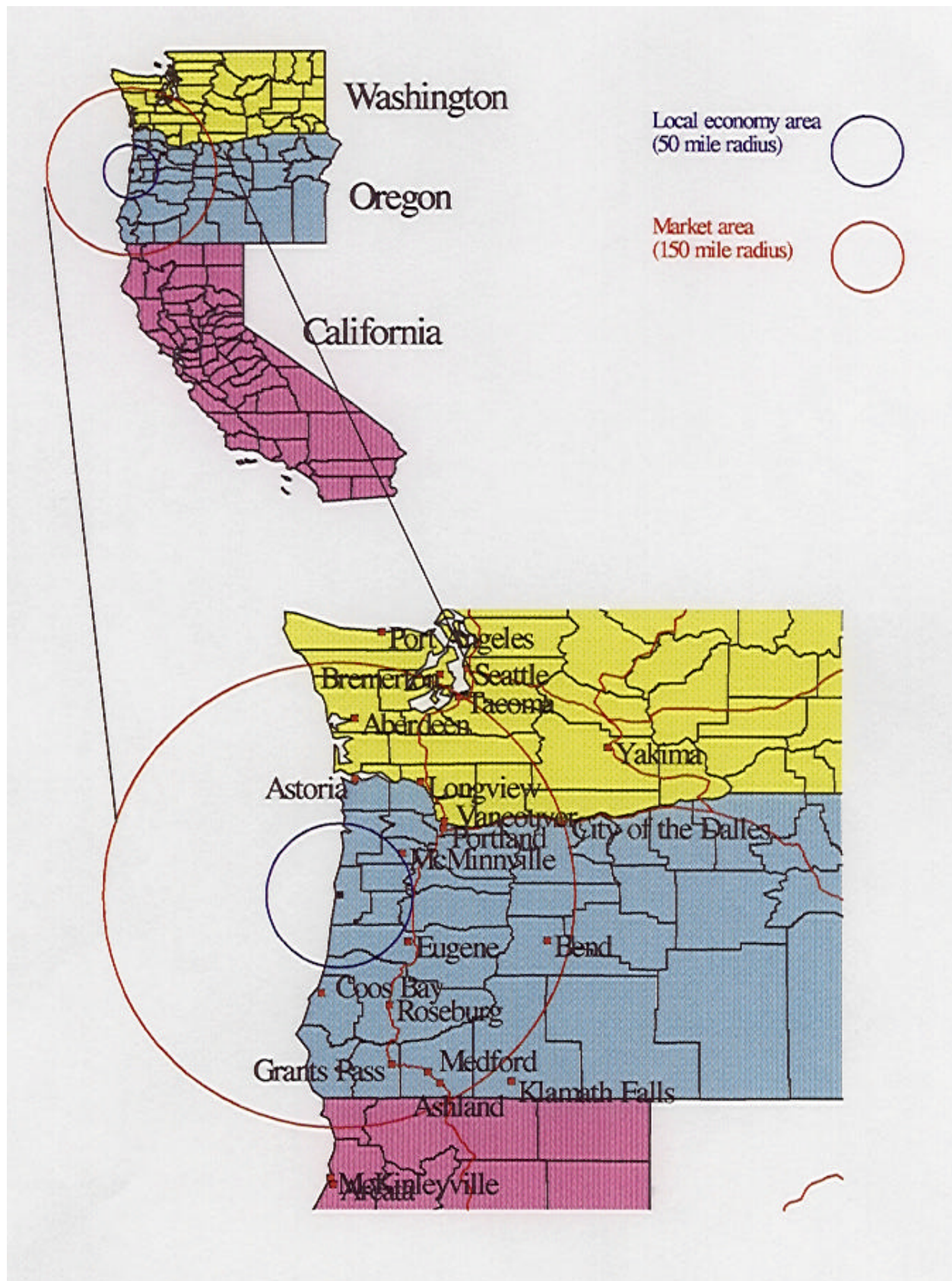


**Figure A.2.** Local economy area and market area for Goldbelt, Colorado.





**Figure A.3.** Local economy area and market area for Yaquina Head, Oregon.



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## Appendix B

**Tables listing the economic impact  
on business sectors.**

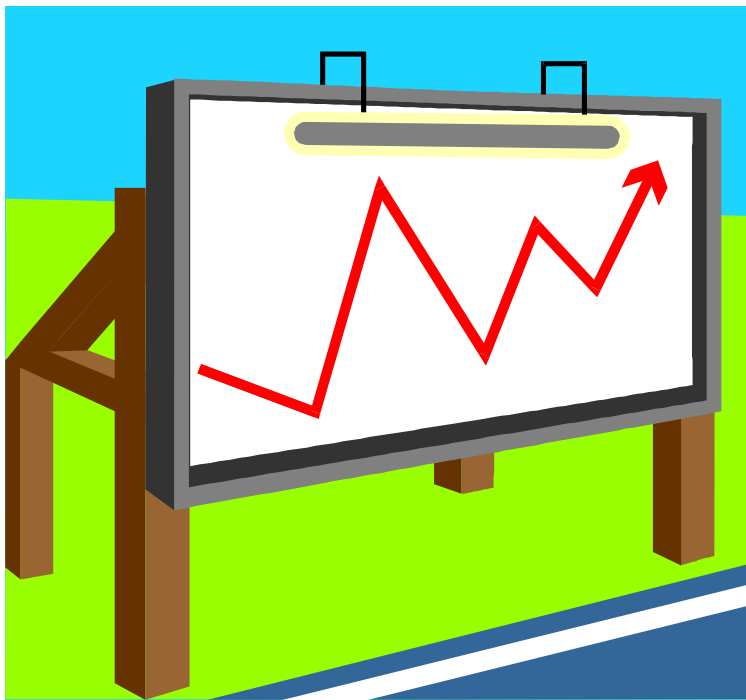


Table B1: Economic growth impacts from nonresident visitor spending at Steens Mountain, 1995 dollars.

Business Sector	Economic Growth Effects					
	Total Output		Total Employment		Total Income	
	Local Economy	Market area Economy	Local Economy	Market area Economy	Local Economy	Market area Economy
Ag., Forestry & Fisheries	\$9,200	\$5,750	0	0	\$4,400	\$2,700
Mining	\$0	\$0	0	0	\$0	\$0
Construction	\$22,800	\$7,540	0	0	\$11,000	\$3,900
Manufacturing	\$7,300	\$17,340	0	0	\$3,400	\$4,000
Transp, Comm & Utilities	\$88,300	\$22,610	1	0	\$48,400	\$11,800
Retail Trade	\$854,800	\$153,920.00	31	5	\$469,400	\$84,800
F.I.R.E	\$177,100	\$48,590	1	0	\$88,500	\$22,900
Services	\$339,200	\$89,160	8	2	\$229,300	\$60,700
Government	\$5,600	\$4,480	0	1	\$3,900	\$2,800
TOTAL	\$1,504,500	\$349,390	41	7	\$858,600	\$194,000

Table B2: Economic growth impacts from nonresident visitor spending at Goldbelt, 1995 dollars.

Business Sector	Economic Growth Effects					
	Total Output		Total Employment		Total Income	
	Local Economy	Market area Economy	Local Economy	Market area Economy	Local Economy	Market area Economy
Ag., Forestry & Fisheries	\$146,800	\$214,100	3	5	\$7,600	\$115,000
Mining	\$23,900	\$257,200	0	1	\$13,000	\$164,000
Construction	\$408,000	\$808,100	5	10	\$210,000	\$430,000
Manufacturing	\$308,500	\$3,091,800	4	17	\$151,000	\$1,090,000
Transp, Comm & Utilities	\$1,014,800	\$2,370,800	9	18	\$466,000	\$1,248,000
Retail Trade	\$6,658,800	\$9,701,300	192	267	\$3,731,000	\$5,412,000
F.I.R.E	\$2,261,000	\$3,992,500	11	23	\$1,186,000	\$1,963,000
Services	\$7,395,100	\$11,725,800	152	257	\$4,784,000	\$7,623,000
Government	\$272,800	\$1,055,300	3	8	\$173,000	\$632,000
TOTAL	\$18,489,700	\$33,216,800	378	606	\$10,795,000	\$18,680,000

Table B3: Economic growth impacts from nonresident visitor spending at Yaquina Head, 1995 dollars.

Business Sector	Economic Growth Effects					
	Total Output		Total Employment		Total Income	
	Local Economy	Market area Economy	Local Economy	Market area Economy	Local Economy	Market area Economy
Ag., Forestry & Fisheries	\$405,300	\$134,200	7	3	\$199,000	\$70,600
Mining	\$3,700	\$4,300	0	0	\$1,000	\$2,200
Construction	\$855,800	\$315,500	10	4	\$458,000	\$165,400
Manufacturing	\$2,296,500	\$1,036,600	13	6	\$739,000	\$339,900
Transp, Comm & Utilities	\$1,710,800	\$802,000	20	8	\$902,000	\$413,300
Retail Trade	\$12,621,000	\$4,320,500	406	130	\$7,611,000	\$2,497,800
F.I.R.E	\$5,124,600	\$1,979,600	26	12	\$2,497,000	\$903,000
Services	\$13,314,400	\$4,542,100	343	108	\$9,173,000	\$3,057,300
Government	\$966,900	\$371,200	6	3	\$593,000	\$215,400
TOTAL	\$37,299,000	\$13,505,900	831	272	\$22,178,000	\$7,665,100

Table B4: Economic interdependence impacts from all spending at Steens Mountain, 1995 dollars.

Business Sector	Economic Interdependence Effects					
	Total Output		Total Employment		Total Income	
	Local Economy	Market area Economy	Local Economy	Market area Economy	Local Economy	Market area Economy
Ag., Forestry & Fisheries	\$9,900	\$53,200	0	1	\$4,500	\$26,300
Mining	\$0	\$200	0	0	\$0	\$100
Construction	\$23,600	\$59,900	0	1	\$11,200	\$31,600
Manufacturing	\$7,800	\$155,300	0	11	\$3,400	\$40,200
Transp, Comm & Utilities	\$91,100	\$181,000	1	2	\$50,100	\$95,800
Retail Trade	\$880,000	\$1,172,300	32	36	\$484,800	\$657,100
F.I.R.E	\$182,100	\$382,900	1	2	\$91,100	\$181,600
Services	\$347,700	\$715,000	9	15	\$234,800	\$482,700
Government	\$5,800	\$35,900	0	0	\$4,000	\$23,100
TOTAL	\$1,548,900	\$2,755,900	43	58	\$884,300	\$1,538,700



Table B5: Economic interdependence impacts from all spending at Goldbelt, 1995 dollars.

Business Sector	Economic Interdependence Effects					
	Total Output		Total Employment		Total Income	
	Local Economy	Market area Economy	Local Economy	Market area Economy	Local Economy	Market area Economy
Ag., Forestry & Fisheries	\$197,300	\$257,800	4	5	\$103,000	\$138,000
Mining	\$32,500	\$296,700	0	1	\$18,000	\$189,000
Construction	\$554,800	\$902,700	7	1	\$285,000	\$480,000
Manufacturing	\$417,600	\$3,542,000	5	19	\$205,000	\$1,228,000
Transp, Comm & Utilities	\$1,378,600	\$2,620,200	11	20	\$636,000	\$1,383,000
Retail Trade	\$8,917,900	\$11,522,200	257	321	\$4,999,000	\$6,387,000
F.I.R.E	\$3,069,800	\$4,575,900	15	27	\$1,609,000	\$2,251,000
Services	\$10,202,100	\$12,923,600	210	283	\$6,604,000	\$8,390,000
Government	\$367,600	\$1,188,100	4	9	\$234,000	\$709,000
TOTAL	\$25,138,300	\$37,829,300	514	696	\$14,696,000	\$21,160,000

Table B6: Economic interdependence impacts from all spending at Yaquina Head, 1995 dollars.

Business Sector	Economic Interdependence Effects					
	Total Output		Total Employment		Total Income	
	Local Economy	Market area Economy	Local Economy	Market area Economy	Local Economy	Market area Economy
Ag., Forestry & Fisheries	\$421,300	\$506,100	8	10	\$206,000	\$266,000
Mining	\$3,700	\$15,900	0	0	\$1,000	\$8,000
Construction	\$870,200	\$1,199,400	10	14	\$466,000	\$629,000
Manufacturing	\$2,303,900	\$3,829,000	14	23	\$742,000	\$1,265,000
Transp, Comm & Utilities	\$1,697,700	\$2,761,200	19	26	\$892,000	\$1,395,000
Retail Trade	\$12,252,600	\$15,680,500	393	466	\$7,413,000	\$9,125,000
F.I.R.E	\$5,171,300	\$7,378,400	26	43	\$2,519,000	\$3,370,000
Services	\$13,981,200	\$17,668,600	364	426	\$9,684,000	\$12,026,000
Government	\$977,000	\$1,413,800	6	10	\$600,000	\$819,000
TOTAL	\$37,678,900	\$50,453,000	839	1019	\$22,527,000	\$28,905,000